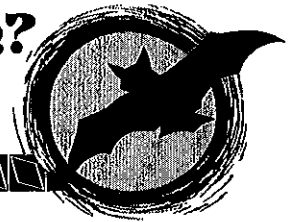


# Who Turns Out the Lights on Halloween?

Cross out the letters above each correct answer. When you finish, write the remaining letters in the spaces at the bottom of the page.



In Exercises 1-4, solve the equation. Round your solution to two decimal places.

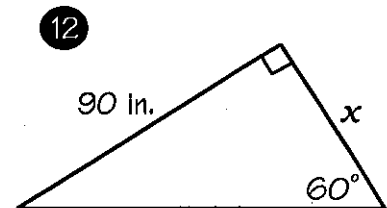
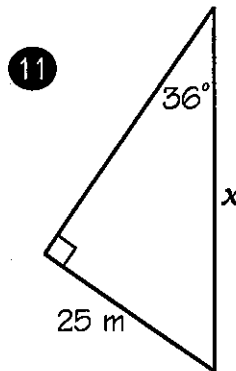
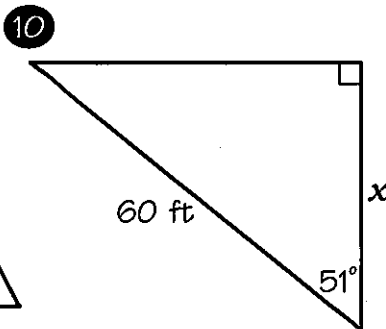
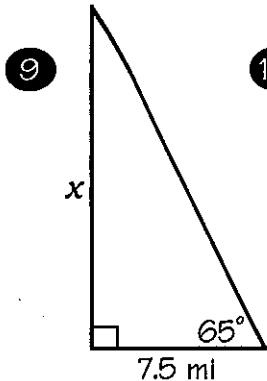
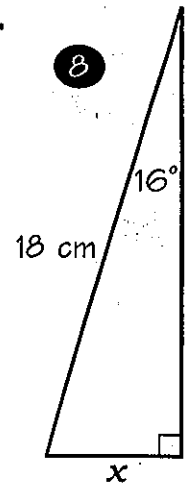
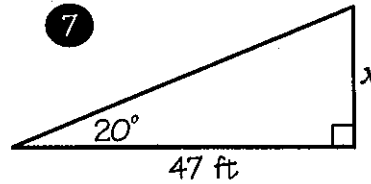
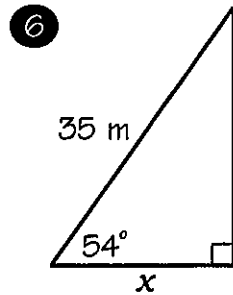
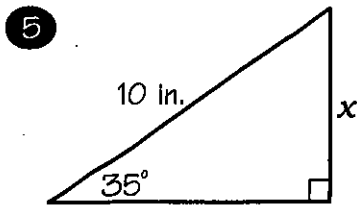
1  $\sin 22^\circ = \frac{x}{15}$

2  $\tan 75^\circ = \frac{n}{80}$

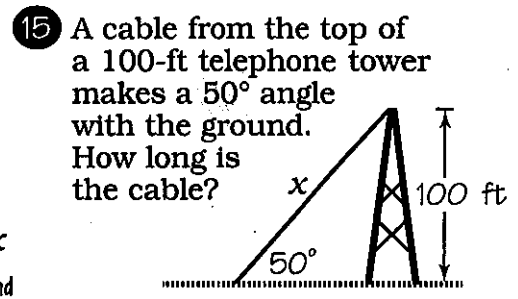
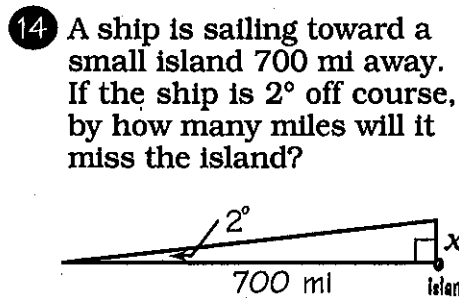
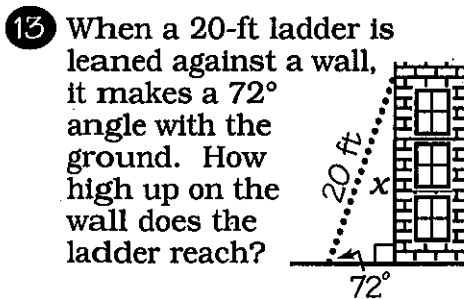
3  $\sin 48^\circ = \frac{7}{a}$

4  $\cos 6^\circ = \frac{92}{k}$

In Exercises 5-12, find the length of the side labeled  $x$ . Round to one decimal place.



In Exercises 13-15, find the required length. Round to one decimal place.



SO	TH	AC	AT	EB	EL	ME	AB	IG	ET	OO
42.5 m	22.5 ft	20.6 m	5.0 cm	130.5 ft	128.1 ft	92.51	19.0 ft	4.7 cm	16.1 ml	298.57
HT	OP	SW	AY	IN	QU	IT	UP	MU	CH	ON
55.4 in.	9.42	20.3 ml	24.4 ml	5.62	37.8 ft	38.1 m	17.1 ft	52.0 in.	95.32	5.7 in.

Team Name: \_\_\_\_\_

Partner A: \_\_\_\_\_

# What Do You Get . . .

1.	2.	3.	4.	5.	6.	7.	8.	9.	?
----	----	----	----	----	----	----	----	----	---

Triangles:

Find the measure of the side or angle labeled  $x$ , or solve the problem. Write the word next to your answer in the corresponding box above.

Answers

810 ft WITH

5° GAME

25° BASEBALL

8.4 cm ON

18.5 in. YOU

50° BIG

30.6 ft A

825 ft WHO

8.7 cm WHEN

733 ft FROG

3° PLAYER

17.8 in. SMOKE

23° HIT

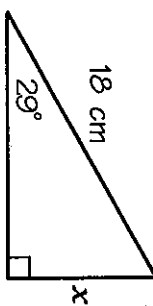
680 ft UNICORN

48° A

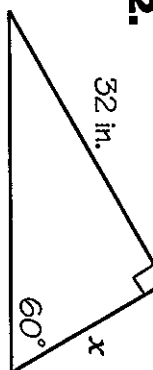
62° CROSS

28.5 ft OVER

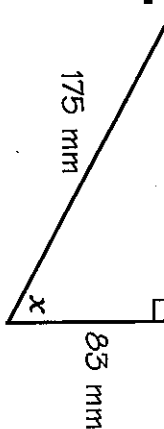
1.



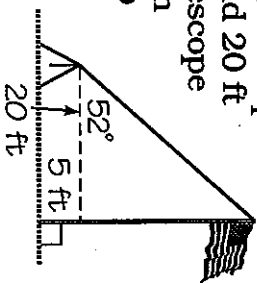
2.



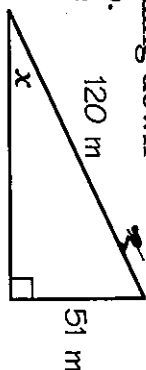
3.



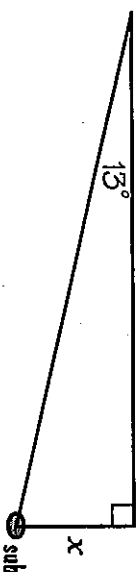
4. A telescope is mounted on a tripod 5 ft above the ground and 20 ft from a flagpole. The telescope must be rotated  $52^\circ$  from horizontal to see the top of the flagpole. How tall is the flagpole?



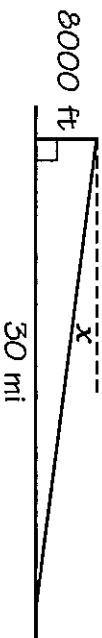
5. An Olympic ski jumper drops 51 m vertically while skiing down a 120-meter ramp. What is the angle of elevation of the ramp?



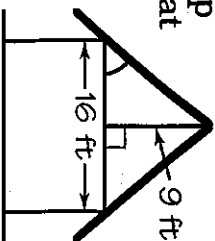
7. A submarine dives at an angle of  $13^\circ$  to the surface of the water. The submarine travels at a speed of 720 feet per minute. About how deep is the sub after 5 min?



6. A plane is 8000 feet above the ground when it begins its final approach to an airport runway. If the ground distance to the runway is 30 miles, what is the angle of descent. (1 mi = 5280 ft)



8. The roof of a ski cabin has a steep pitch to help snow slide off. What angle does the roof make with the horizontal?



9. From a lighthouse deck 90 ft above the water, a capsized boat is observed at an angle of depression of  $7^\circ$ . How far is the boat from the base of the lighthouse?

